Associate Degree in Wood Products Management

Enterprise Management stream

First-year subjects

202-155 Information Technology and Communication

See full subject details on page 1.

208-166 Financial Management I

Availability: Creswick campus

Credit points: 12.5

Coordinator: Mr Peter McSweeney

Contact: Twenty-four hours of lectures (2 hours per week) and 36 hours of tutorials (3 hours per week). Residential workshop for flexible-delivery students *(Semester 2).*

Description: Topics include:

- financial management (principles and responsibilities);
- financial recording/reporting of information systems;
- analysis and interpretation of accounting/financial information;
- business structure;
- financial statements (profit, cashflow, balance sheets);
- budgets and planning;
- costing methods;
- computer business applications;
- debt finance;
- leasing decisions;
- direct taxes;
- indirect taxes; and
- taxation planning issues.

Assessment: One 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 3000 words and worth 30% of final marks each.

Prescribed texts: Makeham and Malcolm, *The Farming Game Now*, Cambridge Press, 1993.

220-150 Leadership and Working in Teams

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Mr Peter Shepherd

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: This subject introduces students to the theory and issues associated with leadership and teamwork within a workplace.

The subject covers the areas of:

- leading and managing;
- leadership and your work environment;
- what is my leadership style?
- leaders as change agents in the workplace;
- the benefits of teams and teamwork;
- the ways in which teams develop and some of the barriers teams encounter when they are introduced to the workplace;
- building better teams;
- the differences between leadership and management;
- tasks and issues that a team leader will need to address in order to maintain an efficient functioning team.

Assessment: The workbook (50%) and report of up to 2000 words (50%).

220-152 Wood Processing and Products

Availability: Creswick campus or other venue subject to numbers of students

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: This subject is designed to introduce broad concepts and bodies of knowledge of the forest products industry. It covers both the production process and the wood-based products produced from these processes. The sawing, milling and drying of solid timbers plus the production of veneer for the manufacture of ply products.

Course outline:

- The history of the development and consolidation of the Pacific Rim as a forest products market, especially in relation to shifts in supply capabilities from traditional exporters;
- The various manufacturing process the industry is involved in, the reasons for being involved in them, and the means by which the industry stays involved in these areas;
- Solid Wood Processing. The efficient and practical running of any timber mill involves many key processes and systems - for all aspects of the operation. Including log grading, site location and machinery operation, drying and preservative treatments;
- Introduction to wood panel products develops an understanding of wood panel product manufacture, the different types and properties of alternative panels.

Assessment: A written assignment of up to 2000 words (55%) and completion of six Workbook self-directed projects/activities (45% total).

220-153 Occupational Health and Safety

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 2).*

Description: This subject gives students an understanding of the Occupational Health and Safety issues of the workplace and the knowledge to evaluate the hazards and risk potentials using various methods.

The subject covers the areas of:

- rhe rationale for managing O H & S;
- descriptions of common terms and discussion of the concepts of Safe Person and Safe Place;
- the legislation applicable to O H & S and its application;
- various methods for identifying workplace hazards will be investigated;
- identifying preventative and reactive strategies.

Assessment: A report on a workplace project of up to 2000 words (55%) and completion of six Workbook self-directed projects/activities (45% total).

220-154 Wood Science

Availability: Creswick campus

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 2).*

Description: Participants will increase their understanding of wood as a raw material. The importance and relevance of a scientific understanding of wood to the timber industry and end-user industries are examined, through an understanding of the chemical and physical structure of wood, microstructure and ultrastructure, including the development of defects and performance in demanding environments. The concept of wood quality and its impact on utility. The physical properties of wood including strength, thermal properties, electrical properties, elasticity, creep behaviour, bending, tensile strength and durability.

Content:

- wood and bark structure, anatomy and ultrastructure;
- macroscopic and microscopic features of wood;
- tree growth and wood quality, woody cell development, reaction wood, variability of wood;
- identification methods, growth rings and measurement of wood properties;
- wood chemistry, extractives, collapse;
- chemical utilisation of wood, and
- natural characteristics and physical properties of wood.

Assessment: Report of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).

220-155 Timber Resources

Availability: Creswick campus or other venue

Credit points: 12.5

Coordinator: Mr Mark Stewart

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 2).*

Description: This course is designed to give students without a forestry production background an understanding of the wider global perspective of the forestry industry and a basic understanding of the native forest and plantation industries within Australia.

The subject covers the areas of:

- factors that affect the supply and condition of wood;
- global forest resources;
- Australian timber resources, distribution and ownership;
- the differences in production between hardwood and softwood species and their impact upon the national economy;
- an overview of best practice timber-harvesting methods that account for economics, environment and mechanisation;
- life cycle assessment.

Assessment: Two reports of up to 2000 words (50% each).

Year-long

220-166 Forestry Work Skills I

See full subject details on page 2.

Second-year subjects

208-274 Managing Staff

Availability: Creswick campus

Credit points: 12.5

Coordinator: Mr Peter McSweeney

Contact: As for 208-269 Managing Staff *(Semester 2).*

Description: As for 208-269 Managing Staff.

Assessment: As for 208-269 Managing Staff.

220-250 Project Management

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: Students are introduced to project management concepts (learning the basics of being a team player in the context of applied research and project management and experiencing the application of theory to the management of a small project). Defining the critical issues in specifying the scope of a project, identifying stakeholders and viewing the strategic aims of a project. Technical aspects of projects - project characteristics, project stages, project management, responsibilities of a project leader, project planning, tasks, scheduling, team playing. Project control, communication, resource allocation, time cost and risk, performance measures.

The subject covers the areas of:

- management and project management;
- project types and structures;
- developing the project definition;
- developing the project plan (scope);
- detailed planning techniques and tools;
- project implementation;
- project conclusion.

Assessment: Report of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).

220-251 Service Quality

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: This subject introduces participants to concepts and skills required to implement quality service. The course is designed to be an introduction to service quality, so therefore each topic covers important information, but is not exhaustive in its coverage. The course provides practical application of the knowledge and skills being learnt through a workshop (when offered), activities at the end of each learning objective and an assignment designed around practical use of the skills.

On completion of this subject, students should be able to:

- define service quality concepts and definitions - including the concepts of service quality gaps and zone of Tolerance then relate them to situations that commonly occur in business;
- explain service quality plans and choosing priorities - components of a successful service quality plan, selecting strategic priorities and describe how this plan links to a business plan;
- understand customer feedback - how, what and why we seek to learn from customers' perceptions;
- explain service quality standards, measurement and process improvement; service encounters - managing the customer interface.

Assessment: Two written projects of up to 2000 words each (50% each).

220-252 Improving Asset Reliability

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures *(Semester 1).*

Description: Students are introduced to maintenance principles and philosophies employed in the work place, and apply tools and methods to predict failure. Students will be able to select a maintenance approach and the steps involved in implementing a maintenance plan and evaluate its effectiveness.

The subject covers the areas of:

- maintenance strategies and systems;
- maintenance techniques;
- improving maintenance performance-tools and measurements;
- predictive maintenance-tools and techniques;
- maintenance planning and scheduling;
- developing and implementing a reliability improvement program.

Assessment: A written assignment of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).

220-253 Evaluating Process Effectiveness

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Mr Philip Blackwell

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: This subject gives students an understanding and tools to evaluate processes within the workplace and methods to improve their effectiveness and productivity.

The subject covers the areas of:

- what to improve, 'top-down' planning;
- solving the problem;
- waste and down-time measuring process performance;
- technology improvement;
- plant and process trials.

Assessment: A 2000-word written assignment (value 55%) and six Workbook self-directed projects/activities (45% total).

220-254 Wood Products Marketing

Availability: Creswick campus or flexible delivery

Credit points: 12.5

Coordinator: Prof Peter Vinden

Contact: Twenty-four hours of lectures *(Semester 2).*

Description: This subject is to provide students with the skills and knowledge to understand the basics of marketing and communicate informatively within the marketing environment.

This subject covers the areas of:

- marketing models, concepts and terms;
- marketing analysis;
- marketing position and strategy;
- marketing plan;
- pricing policies and sales plan;
- reviewing marketing strategies and plans.

Assessment: A report of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).

Year-long

220-287 Forestry Work Skills II

See full subject details on page 2.

Elective subject

202-252 Quantitative Skills for Land and Food

Note: Students with a pass in Year 12 VCE Mathematics (other than those with a study score of 25-29 in Year 12 VCE Further Mathematics) need the permission of their course coordinator before enrolling in this subject.

Credit points: 12.5

Coordinator: Ms Robyn Price

Prerequisites: At least 100 credit points completed at advanced diploma level

Contact: The subject will be delivered by distance mode. Content is equivalent to 72 hours teaching *(Semester 1, repeat Summer).*

Description: This subject will introduce and apply mathematical concepts and skills needed to solve problems in land and food resources contexts. It provides a foundation for 202-107 Mathematics for Land and Food Resources.

Topic areas include:

- geometry and trigonometry, measurement of area and volume, Pythagoras' theorem;
- number patterns, ratio and proportion, arithmetic and geometric sequences, calculations using ratios;
- data analysis: data displays and numerical summaries, estimation, straight line graphs, correlation and regression;
- probability: definitions and axioms, simple and compound events, Venn and tree diagrams, independent and mutually exclusive events, normal distributions;
- graphs and functions: graphs of simple polynomial, exponential, logarithmic and trigonometric functions and their transformations, domains and ranges, function notation;
- algebra and equations: substitution and transposition of formulas, expansion and factorisation, linear and quadratic equations, simultaneous linear equations in two unknowns, index laws and equations;
- rates of change: constant and variable rates of change, gradient as a measure of rate, definition and notation of derivatives, derivatives of simple polynomials, average and instantaneous rates of change.

Assessment: Assignments and projects throughout the subject (60%), a 2-hour final examination (40%).

Timber Pest Management stream

Refer to Enterprise Management stream for relevant subject descriptions.

First Year

Semester 1

- 202-155 Information Technology and Communication
- 220-150 Leadership and Working in Teams
- 220-152 Wood Processing and Products

Semester 2

- 208-166 Financial Management 1
- 220-153 Occupational Health and Safety
- 220-154 Wood Science
- 220-157 Wood Biodeteriorating Agents *(see below)*

Year-long

- 220-166 Work Skills 1

Second Year

Semester 1

- 220-250 Project Management
- 220-251 Service Quality
- 220-255 Remedial Treatment of Timber in Service *(see below)*

Semester 2

- 208-274 Managing Staff
- 220-256 Timber Pest Management *(see below)*

Year-long

- 220-287 Work Skills II

Electives

Two of 202-252 Quantitative Skills for Land and Food (see 202-250 for description), 220-254 Wood Products Marketing; or 220-155 Timber Resources, or other approved Advanced Diploma electives.

220-157 Wood Biodeteriorating Agents

Availability: Creswick campus

Credit points: 12.5

Coordinator: Dr Berhan Ahmed

Prerequisites: 220-152 Wood Processing and Products, and 220-270 Wood Science

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: The topics covered in these subjects include the biology of wood decay fungi and wood destroying insects. This will enable the student to understand the behaviour, anatomy and physiology of the biological agents.

The subject covers the areas of:

- an introduction to general insects' biology and taxonomy;
- biology of fungi, termites, wood borers and marine borers;
- taxonomic characteristics of fungi, termites and wood borers;
- the effect of moisture on behaviour of fungi, termites and wood borers;
- environmental factors affecting insect foraging and reproduction;
- moulting, formation and pigmentation of the cuticle, and function of the cuticle.

On completion of this subject, students should be able to:

- describe the taxonomic features of the economic important fungi, termites, wood borers and marine borers;
- understand biodiversity of fungi, termites, wood borers and marine borers;
- understand the breakdown of cellulose and lignin by termites, fungi, and borers;
- understand the basic anatomy and physiology of fungi, termites, wood borers and marine borers.

Assessment: A report of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).

220-255 Remedial Treatment of Timber In-Service

Availability: Creswick campus

Credit points: 12.5

Coordinator: Dr Berhan Ahmed

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 1).*

Description: This subject covers the environmental factors affecting termite risk management, such as soil chemical barriers and wood preservatives, and enables the student to provide preventative methods and assess and evaluate the potential risks of termites across the country.

This subject covers the areas of:

- the effect of termite, borers and fungi distribution due to climatic factors and soil types;
- variation in degradation of termiticides/fungicides with geographical location;
- knowledge of current termiticides/fungicides and their application;
- current knowledge of physical barrier and their application;
- regulatory requirements and penalties for infringements;
- termite bait and bait toxicants;
- integrated timber pest management;
- basic chemistry of termiticides and wood preservatives;
- the relationship between soil, termite and Pesticides.

On completion of this subject, students should be:

- able to identify the damage caused by decay fungi, termites and wood borers;
- conversant with all the current technology to detect decay, termites, and wood borers;
- conversant with current regulatory requirements for termite inspections and decay fungi;
- able to understand the relationship of moisture and the activity of wood destroying insects and fungi;
- able to apply appropriate remedial treatment methods;
- able to understand building design and potential termite entry points.

Assessment: A report of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).

220-256 Timber Pest Management

Credit points: 12.5

Coordinator: Dr Berhan Ahmed

Contact: Twenty-four hours of lectures and 24 hours of practicals *(Semester 2).*

Description: This subject covers termite, decay and borer management in buildings, building components and inspection procedures necessary to assess and identify the biological agents causing damage to timber in buildings and recommends appropriate control measures.

The subject covers the areas of:

- detection methods of termite damage in buildings and other structures;
- insecticides action and metabolism in insects;
- current regulatory requirements for termite inspections;
- identification of termite damage in buildings and other timber structures;
- integrated timber pest management systems;
- current termiticides/fungicides and their application;
- the effect of termite, borers and fungi distribution due to climatic factors and soil types;
- variation in degradation of termiticides/fungicides with geographical location;
- current knowledge of physical barrier and their application.

On completion of this subject, students should be able to:

- understand the environmental factors affecting termite and decay risk management in buildings;
- understand the differences in termite/decay fungi risk management due to geographical location;
- be conversant with current regulatory requirements for commercial termite operations;
- understand the various preventative measures in the protection timber-in-service;
- adopt the most appropriate treatment methods;
- understand building design and potential termite entry points.

Assessment: A report of up to 2000 words (55%) and six Workbook self-directed projects/activities (45% total).